

Title (en)

Method and device for the operation of fuel cells

Title (de)

Verfahren und Vorrichtung zum Betrieb von Brennstoffzellen

Title (fr)

Procédé et dispositif destinés au fonctionnement de piles à combustible

Publication

EP 2782179 A1 20140924 (DE)

Application

EP 13177796 A 20130724

Priority

- EP 13159982 A 20130319
- EP 13177796 A 20130724

Abstract (en)

The method involves connecting a fuel-cell system to a component of a drive by a cooling and/or lubricating circuit that uses a water-based, oil-free coolant and lubricant. Contaminants in a fuel cell (20) of the fuel-cell system are detected. A flushing sequence is initiated to remove the contaminants using the water-based, oil-free coolant and lubricant, which contains water-soluble additives. The fuel-cell system is attached to auxiliary assemblies of a vehicle, where the fuel-cell system and the attached auxiliary assemblies have a shared cooling-lubricating circuit. An independent claim is also included for a device for operating a fuel-cell system.

Abstract (de)

Es wird ein Verfahren und eine Vorrichtung zum Betreiben eines Brennstoffzellensystems vorgeschlagen, das an mindestens ein weiteres Bauteil des Antriebs oder in einem stationären System zur Strom-Wärmeerzeugung an mindestens ein weiteres Bauteil dieser Anlage angeschlossen und mit diesem mindesten einem Bauteil oder dieser Anlage in einem Kühl- und / oder Schmierkreislauf verbunden ist, und wobei ein Spülungsvorgang für die Brennstoffzelle angestoßen wird, wenn eine Kontaminierung der Brennstoffzelle durch das wasserbasierte, ölfreie Kühl-und Schmiermittel erkannt wird.

IPC 8 full level

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CPC (source: EP US)

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H01M 2008/1095 (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP); **Y02T 10/64** (2013.01 - EP US); **Y02T 10/70** (2013.01 - EP US);
Y02T 90/40 (2013.01 - EP US)

Citation (applicant)

- DE 19945323 A1 20000420 - TOYODA AUTOMATIC LOOM WORKS [JP]
- CN 1423356 A 20030611 - UNIV XI AN COMMUNICATION [CN]

Citation (search report)

- [A] DE 19831100 A1 19990114 - TOYODA AUTOMATIC LOOM WORKS [JP]
- [A] WO 9710619 A1 19970320 - SIEMENS AG [DE], et al
- [A] FR 2863106 A1 20050603 - RENAULT SAS [FR]
- [A] US 2005112418 A1 20050526 - ROBERTS JOY A [CA], et al
- [AD] DE 19945323 A1 20000420 - TOYODA AUTOMATIC LOOM WORKS [JP]

Cited by

CN114335604A; DE102018216837A1; DE102022207671A1

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Designated extension state (EPC)

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